Public Interest Energy Research (PIER) Industry/Agriculture/Water (IAW) Program



Food Processing Industry Energy
RD&D Project Review
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California Energy Commission

Public Interest Energy Research (PIER) Program

The Public Interest Energy Research (PIER) Program supports public interest energy RD&D that will help improve the quality of life in California by bringing environmentally safe, affordable and reliable energy services and products to the marketplace.

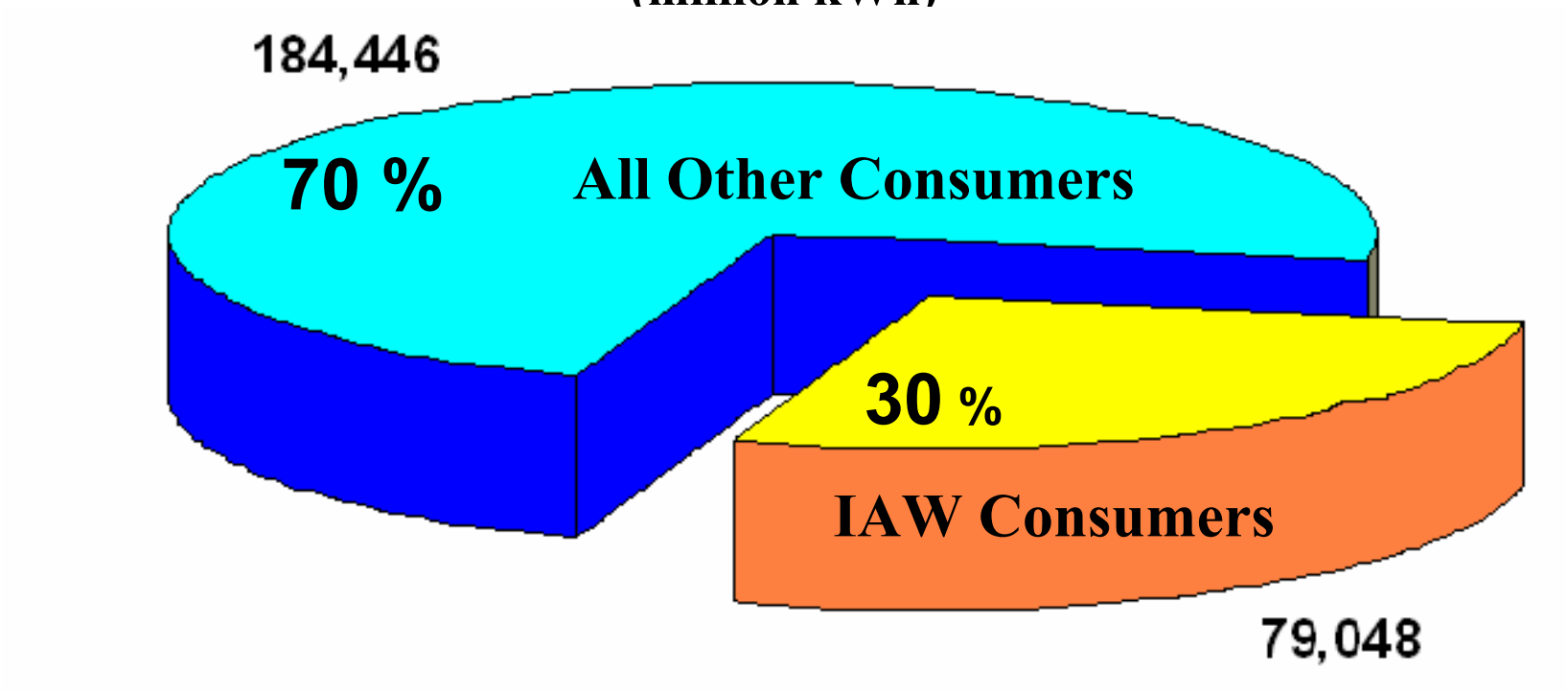
Public Interest Energy Research (PIER) Program

Program annually awards up to $62 million to conduct the most promising public interest energy research by partnering with RD&D organizations including individuals, businesses, utilities and public or private research institutions.

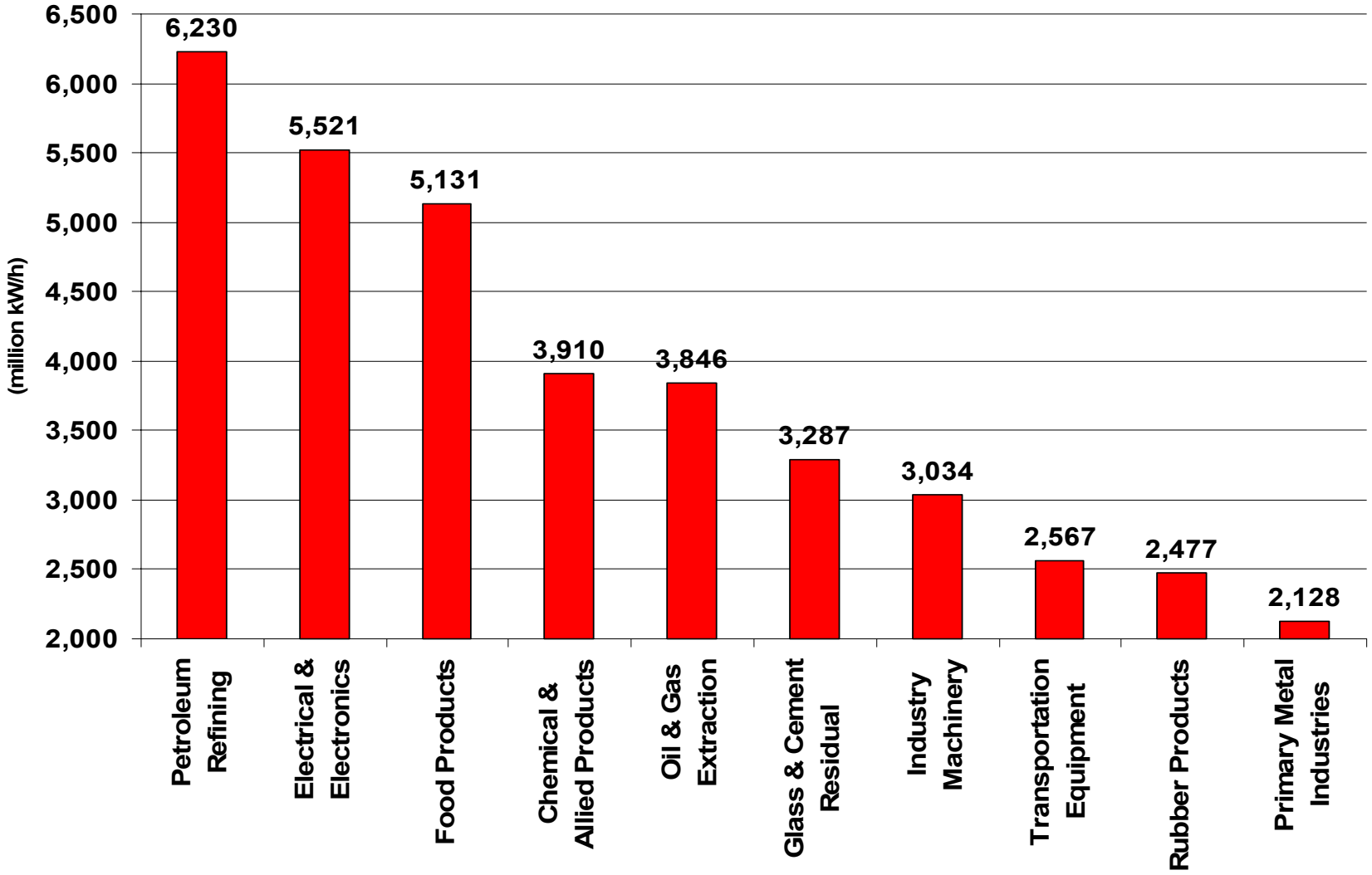
PIER IAW PROGRAM MISSION

Through public interest RD&D - reduce energy costs, increase energy efficiency & reliability, and reduce energy use to mitigate environmental challenges for the industrial , agricultural and water treatment sectors in California

Industrial, Agriculture, Water (IAW) Consumers Form Largest Segment of Electricity Users (Year 2000)



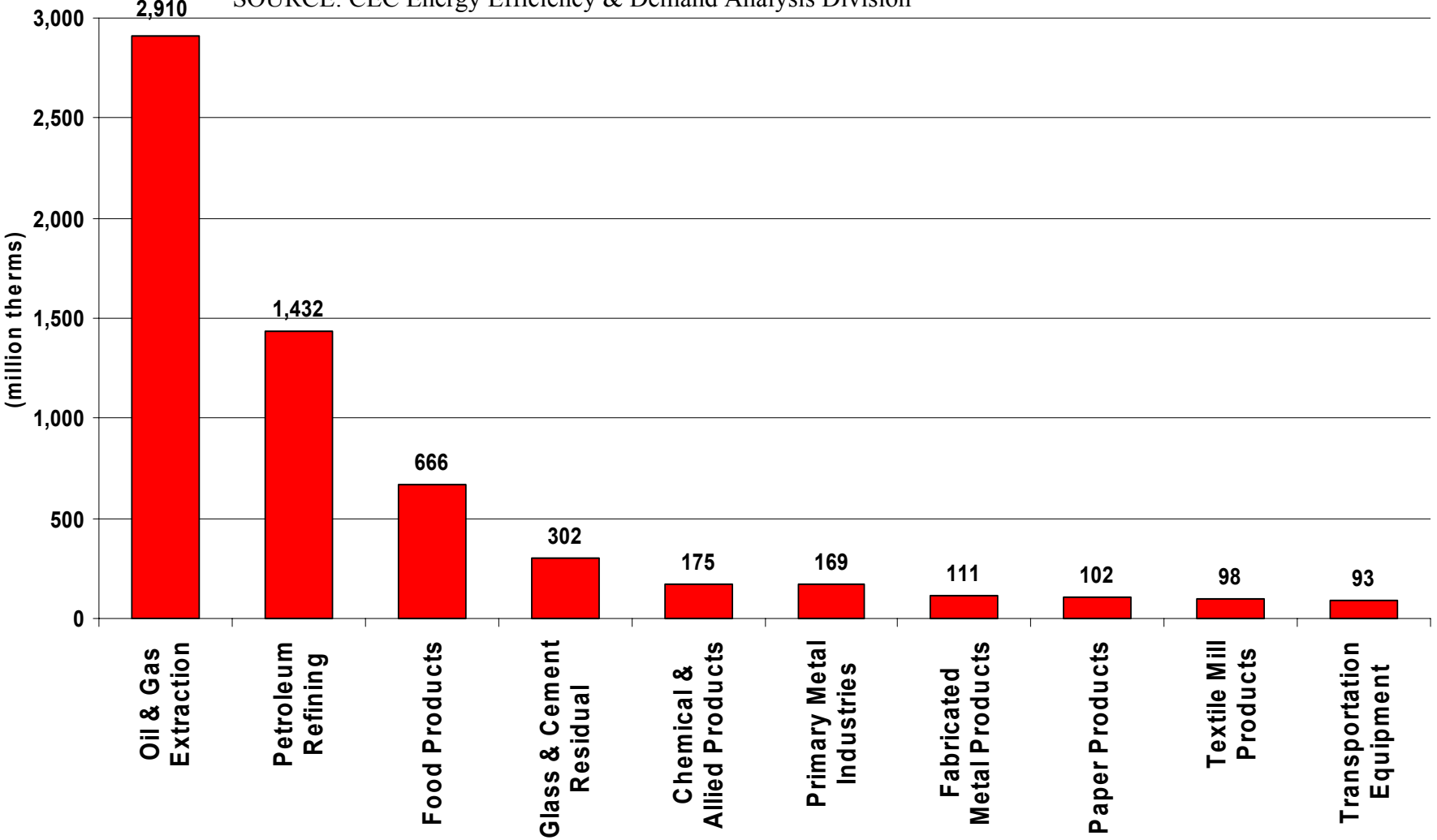
CA Industrial Electricity Consumption
Year 2000



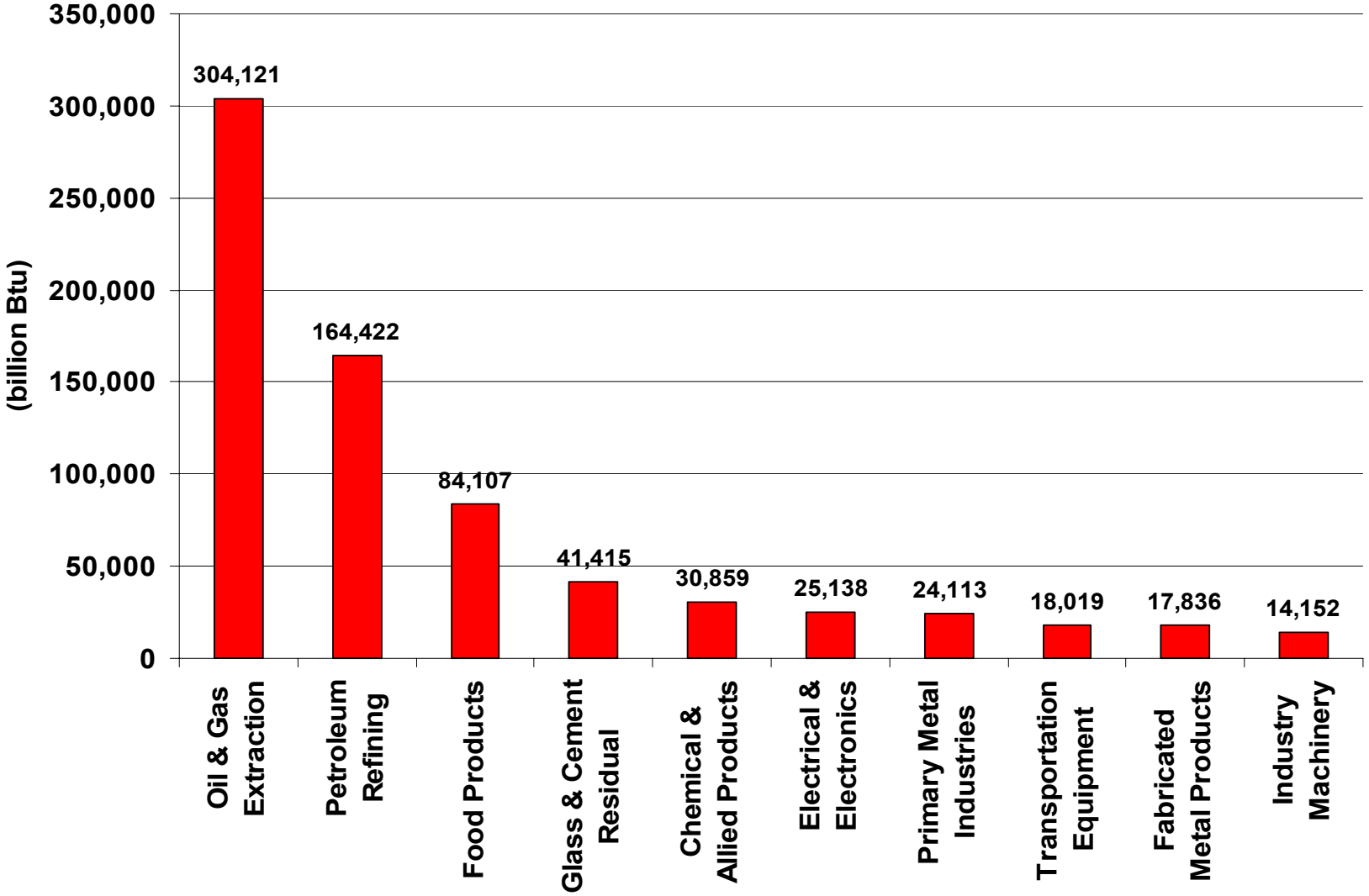
SOURCE: CEC Energy Efficiency & Demand Analysis Division

California Natural Gas Use by Industry (Year 2000)

SOURCE: CEC Energy Efficiency & Demand Analysis Division

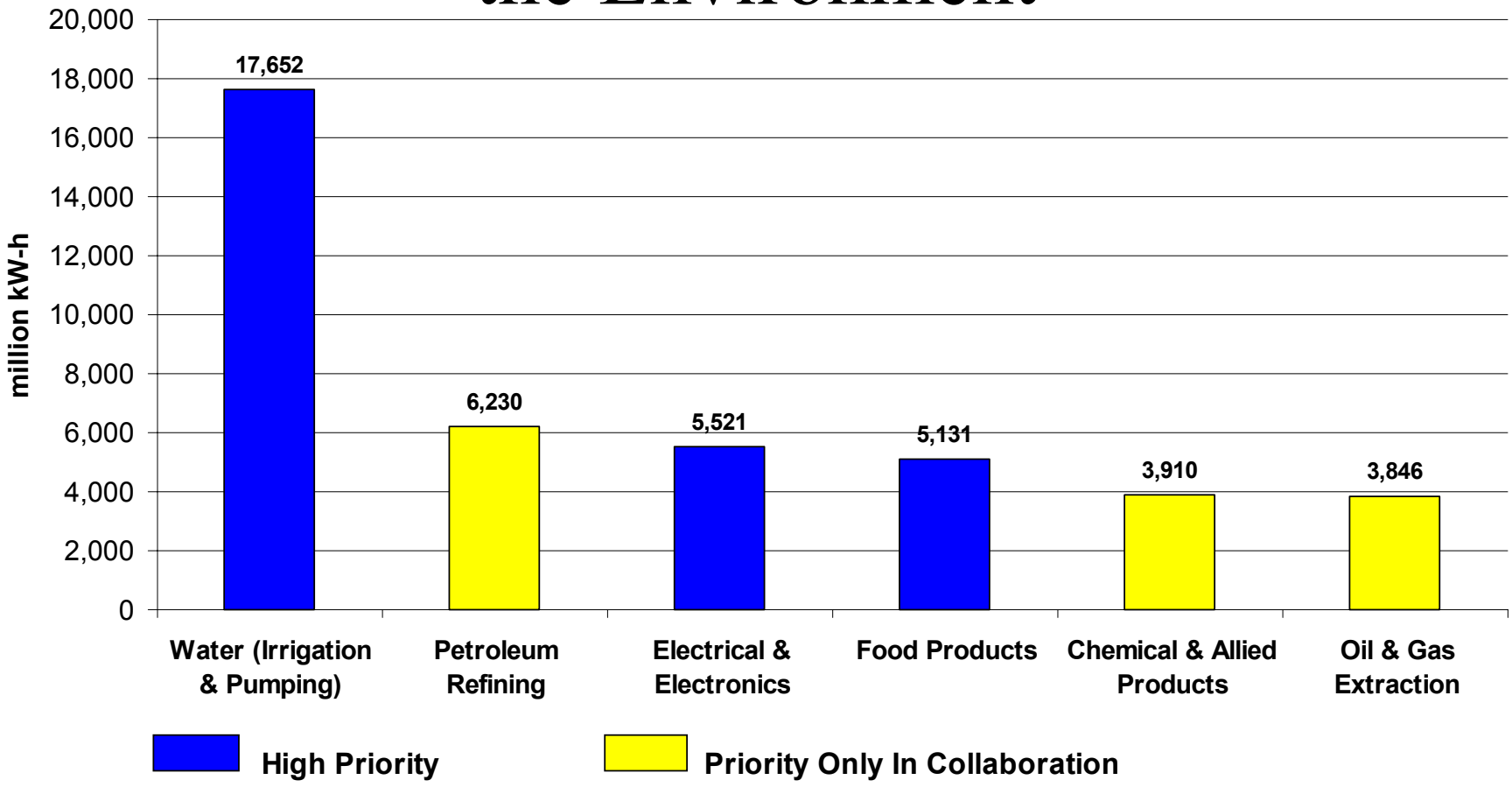


CA Industrial Total Energy Consumption (Year 2000)



SOURCE: CEC Energy Efficiency & Demand Analysis Division

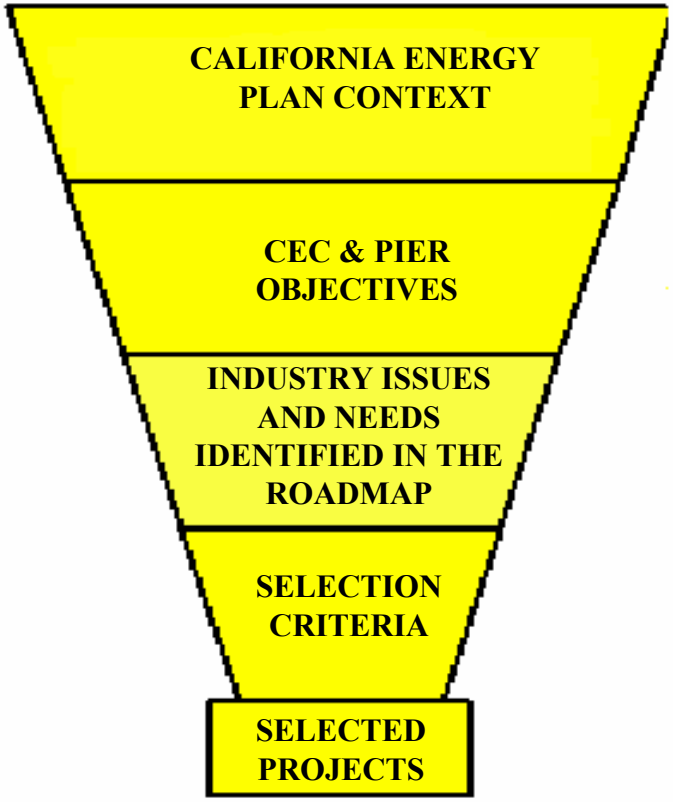
Program Priority for Energy Intensive Industries that Impact the Economy, Employment and the Environment



Seven Steps for Meeting PIER and Commission's Goals & Objectives

1. **Understanding & incorporating Energy Action Plan and PIER objectives in selecting research areas.**
2. **Analysis - to determine impact & RD&D priority**
3. **Industry and Public Participation in Defining Needs & Priority, Selection Criteria**
4. **Collaborate & Leverage non-PIER resources**
5. **Collaboration within PIER & Commission**
6. **Active Technology Transfer**
7. **Project & Program Evaluation.**

Selecting Energy Efficiency and Reliability RD&D Projects that Address Industry Needs and Issues



FOOD INDUSTRY ENERGY RESEARCH PROJECT November 2002 RFP

SELECTION CRITERIA

- Scientific & engineering viability
- Address industry issues as per the Roadmap,
- Ability to meet PIER policy objectives and CEC Policies as per Energy Action Plan,
- Probability of commercial success & industry based demonstrations in 5 Years.

PIER FOOD INDUSTRY ENERGY RESEARCH PROJECTS

ENERGY IMPACT

Energy Saving Estimates for Electricity Peak Demand & Consumption and Natural Gas

ID #	Project	Number Of Sites	Possible Energy Savings					
			Single Site			Systemwide		
			Peak kW	MWh	kTherms	Peak MW	GWh	kTherms
25	Energy efficient blower for boilers	*1600	18	41	0	30	65	0
37	Adsorption Refrigeration	50	300	1,500	0	15	75	0
7	Infrared Drying of Rice	840	100	152	12	84	128	11,800
33	Benchmarking Wineries	800	~	~	~	28	75	4,600
30	Organic Rankine Cycle	50	400	2,400	0	20	120	0
9	Retort/Cooler Optimization	36	300	1,000	-13	11	36	-470
4	Heat Exchanger Fouling	100	18	150	63	2	15	6,300

* All industrial boilers in San Joachin Valley, including those used by Food Processing Industry.